

WHAT IS CLAIMED IS :

- Sub A-1
1. A device for packaging rolls of web material in an automatic packaging machine, with the said machine including:
- a station for forming packages of rolls;
  - a series of channels which supply said station with rolls, according to selected positions;
  - a receiving area of said station, situated at the same level as the series of channels and aimed at receiving and compacting said rolls, thus forming groups of rolls;
  - a predetermined outlet side of said receiving area, said groups of rolls leaving said receiving area through said outlet side;
  - a conveying line, aimed at taking over said groups of rolls already formed and leaving said receiving area;
  - first lateral means delimiting said receiving area on a side opposite to said outlet side;
  - lower delimiting means and upper delimiting means of said receiving area of said station, said lower and upper delimiting means including a pair of endless conveying belts parallel to each other and arranged one above another at adjustable levels;
  - moving means for moving said group of rolls out of said receiving area;
  - second lateral delimiting means situated near said outlet side and made movable to allow said group of rolls to leave while forming a package.
2. A device as in claim 1, wherein said endless conveying belts are power-driven intermittently and in time relation

with forming of said group of rolls, said conveying belts constituting said moving means.

3. A device as in claim 1, wherein said endless belts are made idle in step relation with defining of a group of rolls, and said moving means are constituted by a lateral pusher which defines, when set in a rest position, also said delimiting means on a side opposite to said outlet side for the groups of rolls.

4. A device as in claim 3, wherein said pusher reciprocates in opposite directions.

5. A device as in claim 3, wherein said pusher moves following a close-loop cycle along the sides of a quadrangle so as to move laterally or upwards, first in a forward stroke to push a group of rolls out of said station thus clearing said receiving area, to define a new package of rolls, then performs a return stroke along trajectory parallel to said forward stroke, shifted with respect to said forward stroke.

6. A device as in claim 1, wherein said second lateral delimiting means include at least one swinging wall, hinged to one of the edges of said outlet side of said receiving area in which said groups of rolls are formed.

7. A device as in claim 1, wherein said second lateral delimiting means include two swinging walls arranged one above the other, and hinged to two lateral edges of said outlet side of said receiving area where the groups of rolls are formed.

8. A device as in claim 1, wherein means for disposing a sheet of material, aimed at wrapping said group of rolls, are situated at said outlet side and behind said second lateral delimiting means.

9. A device as in claim 8, including two folding plates, arranged one above another and offset with respect to each other, said folding plates being capable of partially overlapping each other behind said group of rolls just gone out from said receiving area, so as to overlap free edges of said sheet.

10. A device as in claim 1, wherein said conveying belts move far from and close to each other in order to change the wrapping tension of said packages.

11. A device as in claim 1, wherein said conveying belts are operated with varying speed.

12. A device for packaging rolls of web material in an automatic packaging machine, with said machine including:

a station for forming packages of rolls;

a series of channels which supply said station with said rolls, according to selected positions;

a receiving area of said station, situated at the same level as the series of channels and aimed at receiving and compacting rolls, thus forming groups of rolls;

an outlet side of said receiving area, said group of rolls leaving said receiving area through said outlet side;

an outlet line, aimed at taking over formed groups of rolls, leaving said receiving area;

lower delimiting means and upper delimiting means of said receiving area of said station, said lower delimiting means and upper delimiting means including a pair of surfaces, parallel to each other and arranged one above another at adjustable levels;

a lateral pusher for limiting, when set in a rest position, said receiving area on a side opposite to said outlet side, said lateral pusher acting on each group of rolls in order to make it leave said receiving area;

lateral delimiting means situated near said outlet side and made movable for allowing said group of rolls to leave said receiving area and form a package.

13. A device as in claim 12, wherein said pusher is reciprocated in opposite directions.

14. A device as in claim 12, wherein said pusher moves in a close-loop cycle along the sides of a quadrangle so as to move laterally or upwards, first in a forward stroke to push a group of rolls out of said station thus clearing said receiving area, to define a new package of rolls, then performs a return stroke along trajectory parallel to said forward stroke, shifted with respect to said forward stroke.

15. A device as in claim 12, wherein said second lateral delimiting means include at least one swinging wall, hinged to one edge of said outlet side of said receiving area in which the groups of rolls are formed.

16. A device as in claim 12, wherein said second lateral delimiting means include two swinging walls arranged one above

the other, and hinged to two edges of said outlet side of said receiving area where the groups of rolls are formed.

17. A device as in claim 12, including means for positioning a sheet of material, aimed at wrapping said group of rolls, situated at the outlet side and behind said lateral delimiting means.

18. A device as in claim 15, including two folding plates, arranged one above another and offset with respect to each other, said folding plates being capable of partially overlapping each other behind said group of rolls just gone out from said receiving area, so as to overlap free edges of said sheet.

19. A device as in claim 12, wherein said surfaces move far from and close to each other.